MARINE RECORD

ESTABLISHED 1878.

VOL. XX. No. 43. CLEVELAND---OCTOBER 28, 1897---CHICAGO. $2.00 Per Year. 10c. Single Copy

ANNUAL REPORT ON NAVIES.

The naval history of the past year has no conspicuous feature, says the British Naval Annual, and as regards shipbuilding policy there is the usual difference of opinion.

"Most naval powers are employing multi-tubular or water-tube boilers on their new ships. The advantages of this type are numerous, but like all boilers they require frequent and most careful overhaul if serious accidents are to be avoided. It is true that their explosions are localized, and that repairs can, as a rule, be easily effected. The greatest danger arises from the action of the flames on the tubes which are directly exposed to them, and for this reason in the lower parts of the new boilers thicker tubes without welds should be employed. The best course to adopt is absolutely to forbid the use of all welded tubes."

With regard to the relative strength of navies, T. A. Brassey says there has been little change during the year. Britain and France have both completed powerful battleships. France and Russia have both reduced the sums alloted for new construction in the coming year. Italy has been arrested in her naval progress by her African involvements. Germany has shown a decided increase in her shipbuilding activity, and has adopted the principle that she "must be in a position to fight with strong forces on sea as well as on land, and that a position of power in the world can only be assumed by Germany if she has a powerful navy." The United States seem determined to take a position among the naval powers, and by the end of the century will possess a fleet of some eight first-class battleships. Japan has started on a new and ambitious career of naval enterprise, and has elaborated a scheme for a powerful navy. Not much change has taken place in the relative strength of British and French squadrons in European waters.

A TRAIT OF THE ENGLISH LLOYDS.

It is certain that underwriters will so influence owners who insure with them next season that masters not well informed as to the rules of the road and other matters necessary to safe navigation will not be hired, says the Detroit Free Press. A list of them has been made out and is now in the hands of the insurers. This testimony was obtained through evidence given in collision cases and other suits, wherein it appears that the masters were ignorant of these rules, or had a smattering of them that was as bad as ignorance. This is how the owner can be induced not to hire them again next year. The insurer will say to the owner: "Now, if you put on a certain other man in place of so-and-so, I can insure your vessel at a lower rate." Few owners will hesitate what to do if they see this chance to save. It therefore behooves every master who has not done so to study the pilot rules and the regulations governing certain canals and channels. The competent are listed, as well as the incompetent, so the advantage to be gained is a double one.

The query again comes in why does the Steamboat Inspection service license incompetent men and give underwriters the trouble of discriminating. If this goes on much farther the underwriters will be the actual licensing board and our steamboat inspection service be an inspection board, simply only advising of the number of deck buckets to be carried, etc.

THE HALIFAX DRY DOCK.

In reference to statements which have recently appeared concerning the docking of the U. S. S. Indiana at Halifax, Mr. D. McPherson, manager of the Halifax Co., says: "The Halifax graving dock was excavated out of solid rock. The bottom was leveled with concrete. The keel blocks are of the best white oak, 20 inches wide, and rest on granite blocks bedded in concrete and are 5 feet from center to center. The bottom of the dock is floored over with 5-inch pitch pine plank, laid on pitch pine stringers, which are bedded in concrete. H. M. S. Blake, 9,000 tons, docked here five times, and sat on 52 of these blocks, which would give each block a weight to bear of 173 tons, and she neither damaged her plates or the blocks. In the case of the Indiana we placed an extra block between each of the permanent ones, which left a space of 10 inches between the blocks. We did this because the Indiana's frames were so far apart, not that we had any fear of her crushing the permanent blocks if left in the usual way. The keel blocks did not settle; neither were any of the Indiana's plates indented 1½ inches, as stated in some newspapers, or even ½ an inch. I will guarantee to dock any ship, large or small, with or without bilge keels, that is strong enough to bear her own weight, without any damage or even a scratch of paint." The Halifax dock is 600 feet long and 102 feet wide at coping, and there is 29 feet of water on the sill.

A FOG WHISTLE WANTED.

Capt. James Parsons of the steamer Charles Hebard, writes Geo. L. McCurdy, Chicago, as follows: "In looking over the disasters in the locality of Point aux Barques, Lake Huron, I think you will note that the majority of them are occasioned through thick weather, and a fog whistle at that point, it seems to me, is more necessary than at either Point Austin or Sand Beach. I sincerely trust the government authorities will look into the matter, as it is very important."

THE TORONTO BUILT ROLLER BOAT.

A trial of the Knapp roller boat built at Toronto has been made that demonstrated both the weakness and the possibilities of the new craft. The experiment was not continued, as it was found that the plates of the cylinder were not strong enough to permit of its being worked at full speed. Mr. Knapp said that the trip demonstrated that the boat was under perfect control, and the matter of speed was simply a question of more powerful engines. Such an admission from the inventor of the roller boat must be considered charming in its simplicity.

A MONSTER STEAMER.

With the launch of the big White Star liner Oceanic which is set for January next, the creation of a ship of over 17,000 tons gross measurement and of 704 feet length, will have been accomplished in less than twelve months. Owing to the abnormal length of the Oceanic, the builders had to extend the building berth far beyond and below high water mark, and this has been accomplished by forming an immense cofferdam of heavy sheet piling around the extreme end of the berth, and inwards along the sides to some considerable distance beyond high water mark. With the water thus excluded—and with pumps at hand for draining purposes in the event of any leak—work has proceeded on the aft end of the ship at all states of the tide, and at a level considerably below that of the excluded waters. The White Star management again announces that the Oceanic, although 65 feet longer than any vessel afloat or under construction, will not have triple screws and steam 27 knots an hour as at first reported; she is not to be the startling record-breaker, which an interested public would have made her. The aim is simply to give the vessel a sea speed of 21 knots, or one knot in excess of the 20-knot Teutonic and Majestic, of which vessels she is, in fact, to be an enlarged reproduction. In the matter of coal endurance the power of the Oceanic will be most exceptional, a circumstance which would render her of immense value as a transport ship for troops or as an armed cruiser. In case of need she will be able to steam 23,400 knots at 12 knots an hour, or practically around the world without coaling. The cost of the Oceanic is estimated at $4,000,000.

RAILROAD TRAFFIC.

According to the annual statistics compiled by the Interstate Commerce Commission the total railway mileage in the United States on June 30, 1896, was 182,776.63 miles, there being an increase of 2,119.16 miles, or 1.17 per cent. during the year. California shows an increase of 202.05 miles; Florida, 125.84 miles; Georgia, 233.77 miles; Louisiana, 130.17 miles; Michigan, 140.53 miles; Minnesota, 110.43 miles; Ohio, 111.06 miles; Pennsylvania, 168.18 miles; Texas, 144.79 miles; Wisconsin, 115.25 miles, and Indian Territory, 181.66 miles. The increase in mileage in the other states and territories in which an increase has occurred is less than 100 miles. The aggregate length of railway mileage, including all tracks, on June 30, 1896, was 240,129.12 miles, the increase being 3,234.86 miles. The length of second track was 10,685.16 miles; of third track, 990.45 miles; of fourth track, 764.15 miles. The mileage of yard track and sidings was 44,912.73 miles.

The statistics submitted show that the number of railway employes killed during the year ended June 30, 1896, was 1,861, and the number injured was 29,969. These figures indicate an increase of 50 in the number killed, and 4,273 in the number injured, as compared with the preceding year. The number of passengers killed was 181, and the number of passengers injured 2,873, being an increase of 11 in the number killed and of 498 in the number injured. The number of persons other than employes and passengers killed was 4,406, and the number injured 5,845. These figures include casualties to persons reported as trespassers, of whom 3,811 were killed and 4,468 were injured. From summaries showing the ratio of casualties it is found that for every 444 men employed on railroads one was killed, and for every 28 men employed one was injured. A similar comparison as to trainmen shows that one trainman was killed for each 152 trainmen employed, and that one trainman was injured for each ten trainmen employed. The number of passengers carried for one passenger killed was 2,827,474, and the number of passengers carried for one passenger injured was 178,132. As showing in another way the immunity of passengers from accidents, the report gives ratios based upon the number of miles traveled, from which it appears that 72,093,963 passenger-miles were accomplished for every passenger killed, and 4,541,945 passenger-miles for every passenger injured.

TO FAVOR U. S. TONNAGE.

Samuel Holmes, of New York, one of the leading brokers in the world for the purchase and sale of vessel property, expresses his views on the now famous "section 22," as follows. It is quoted from his recent "Steam Vessel Circular:"

"In this issue of my Steam Vessel Circular, I desire to call the attention of all interested in steam shipping to most important changes the shipping interest is about to see inaugurated. Through the unceasing and intelligent efforts of Senator Elkins, who has been the special champion in Congress of the shipping interest, the Dingley tariff law, section 22, proposes to impose a discriminating duty of 10 per cent. upon all goods brought to this country in other than American vessels when such imports are not exempted by treaty. If treaties exist preventing the levying of this duty, it is the purpose of the government to denounce such treaties, and thus make all goods brought here in foreign vessels subject to a 10 per cent. duty above what will be levied upon the same goods imported in American vessels. This will give American vessels protection to the extent of 10 per cent. upon imports, and is likely to extend the American steam shipping interests in a manner hitherto unknown. The great importance of this change cannot be too clearly pointed out, and as it is my province to allude to special items of interest to the shipping trade, I gladly call attention to the good times ahead, and the prospects of profit and increase to the American marine, which has been held down in the foreign trade by reason of higher wages and better living accorded American sailors, thus making the operating expenses of American ships in the foreign trade too great to meet the competition of low wages paid on competing foreign vessels."

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to The Marine Record.

At the Independent Tug Line floating dry dock the tug Rita McDonald is on the dock receiving some bottom calking and new ironing to fit her for winter service.

At the shipyard here the Anchor Line steamer Clarion was in dock for repairs to shoe and stern bearing, the schooner George L. Wren and canal boat No. 2. for bottom calking.

The I. T. line tug Ira O. Smith had her smoke stack knocked off and her pilot house pushed over by the head gear of the schooner R. Kanters which the tug was towing up the river on Monday. The accident happened at Lake street bridge. The schooner was manned by the mate and cook only, who failed to handle her properly.

The steamer Curry damaged Lake street bridge badly Sunday afternoon. She was coming down the south branch of the river in tow of two tugs. The steamer got on the bottom when nearly through and in the efforts made to get her through the draw her stern backed up onto the bridge and broke up about twenty feet of the sidewalk. The Lake street elevated road trains were blocked for fifteen minutes. When the bridge was closed it was necessary to have a gang of carpenters to repair it. The steamer was not damaged.

Capt. William Shaw, owner of the schooner Ada Medora, received a dispatch Monday from the mate of the schooner stating that Capt. John Bailey who was master of her had fallen into the hold that morning and was instantly killed. The schooner was at Naubinway, Mich., loading lumber. Capt. Bailey was born at Belfast, Ireland, 55 years ago. He became commander at the age of 15 years and has been sailing on the lakes nearly thirty years. He was master of the schooners Rob Roy, Frank Crawford, Horace Badger, Delosde Wolf and the Ada Medora which he has sailed the past two seasons. The news of his untimely end has caused profound regret amongst his friends and associates at this port, by whom he was held in high esteem. He was a thorough good experienced captain and was much liked. He leaves a widow and two young daughters, the issue of his last marriage, and two grown up sons, the issue of his first marriage. He was a life member of the Richard Cole Lodge, A. F. and A. M. His body will be brought to Chicago for interment. Capt. Wm. Shaw sent an undertaker to Naubinway Monday night to bring home the remains of the deceased.

Capt. C. G. Kohnert and the crew of the schooner F. W. Gifford arrived here Monday on board the schooner City of Sheboygan by which they had been picked up on Lake Michigan, the schooner F. W. Gifford having foundered. The Gifford was owned by Capt. Kohnert and C. W. Elphicke. She was built in 1868 at Cleveland, O., registered 429 tons net, was rated A2 and valued at $12,000 in Inland Lloyds. She was insured for $8,640 and her cargo of iron ore for about $4,000.

Capt. John Prindiville chartered the steamer H. A. Tuttle for oats to Buffalo at 1⅝ cents; the barge Warmington for barley to Buffalo at 1¾ cents; steamer Pontiac for barley to Buffalo at 1⅝ cents; steamer Santa Maria and consorts Teutonia and Gawn for corn to Midland at 1⅝ cents.

H. W. Cook and Co. chartered the barge Massasoit for corn Milwaukee to Port Huron at 1½ cents; steamer Panther for wheat to Sandusky at 2 cents; steamer W. H. Wolf for oats to Buffalo at 1½ cents; steamer Aztec and consort Zapotec for corn to Lake Ontario at 4 cents, free of tolls; steamer Westover and consorts Bliss and Parana for lumber, Manistique to Chicago at $1.12½; barge John Martin for Duluth to Chicago at $2.12½; steamer John Otis for lumber, Menominee to Chicago at $1.12½.

J. J. Rardon & Co. chartered the steamer Interocean and consort Winslow and steamer Blackrock for corn to Kingston at 4 cents; schooner Maria Martin for oats to Port Huron at 1⅜ cents.

BUFFALO.

Special Correspondence to The Marine Record.

Buffalo Harbor 41, of the Masters' and Pilots' Association, has located F. L. Mather who did some crooked work for it in an advertising scheme last spring. He is in jail in Pittsburg for work of the same sort there on a daily newspaper.

The Bell Steam Engine Works successfully launched the steel tug built for Cleveland owners. The tug is 90 feet long, 23 feet in beam, and 14 feet deep. Engines fore and aft compound, diameter of cylinders 20 inches and 40 inches by 30 inches stroke, open front slipper guide style built by the Bell Steam Engine Works. Mr. Bell claims that she is the most powerful tug on the lakes. Her boiler was built by Kingsford, of Oswego, and is 12 feet in diameter by 16 feet in length. The boat will not be entirely finished for about twenty days, too late to do much work this season. Mr. Bell will not begin the immediate construction of any more tugs, but he is figuring on four, at least three of which are for outside firms and one for a local house.

This port received over 1,000,000 bushels of grain in one day last week, and, as usual, took care of it in good time, and without any detention on the part of the vessels.

Coal shipments for last week are more than 113,000 tons, the largest of the season, though likely to increase from this on.

Fire destroyed the Sturges elevator on Wednesday afternoon. The blaze was caused by a dust explosion, which is said to have been set off by sparks from a tug. This is a Lehigh house, though owned by a Buffalo corporation. It had a capacity of 300,000 bushels, and was one of the most active of the older houses, although the Lehigh will be able to get along with the Dakota alone. The Sturges contained about 250,000 bushels of grain. The loss will not exceed $100,000, while the building is worth an equal amount. The Sturges was bought some years ago off the Sturges estate, of Chicago, and has since been used very actively.

Anent the new tug built by the Bell Steam Engine Works, I notice that nearly all of the papers say she is for L. P. & J. A. Smith. The tug is not yet named but instead of being built for the Smiths she is owned by the Cleveland Tug Co., and there are others in that firm besides the well known contractors, who it may be said, have lots of tugs of their own.

From reports received here there is war to the knife in progress among the marine insurance men in Toronto. The cutting of rates, which have already been reduced by competition, about 20 per cent., is on imports. Competition is keen at present, but the general disposition is to meet the cut, whatever it may be. However, on exports, the tendency is in the opposite direction, and rates are advancing. This applies to St. Lawrence shipping. The cause for the increase of rates on exports by that route is that the greatest losses have been by the St. Lawrence. The same objection would apply to imports and exports, were it not that the practice now is to give what is called open policies, which means that the rate is given to all ports, including those on the St. Lawrence. Of late there has been a large increase in marine insurance business, and the war, it is said, is the outcome of the efforts of one or two companies to secure the bulk of it.

DETROIT.

Special Correspondence to The Marine Record.

When the late Capt. S. B. Grummond was to the fore he had quite a fleet of vessels, but with the recent sale of the tug Swain to Capt. James Davidson, the last vessel owned by the Grummond estate passed into other hands. Ever since 1857, when Capt. Grummond bought the first tug, the Field, until a day or two ago, there had been a line of Grummond tugs on the lakes. At one time the fleet numbered 10, and was the largest and most powerful in these waters. The Champion, Winslow, Sweepstakes, John Owen, Manistique and Swain are still in service. Of the others the powerful W. M. Moore was dismantled and her machinery was put into the passenger steamer State of Michigan. The Crusader burned at the Soo in '94, and the Leviathan at Cheboygan in '92; the Oswego offered a sensational spectacle in the Detroit river in 1888 as she drifted past the city, wrapped in flames, and the Field blew up at the foot of Woodward avenue. Capt. Grummond owned many schooners at one time. Several are still on the lakes. Of his passenger boats, the State of Michigan and the Flora are the only ones still in commission. There was an effort made to fit out the Atlantic this summer, but it was not accomplished.

The contracts have been let for the harbor improvements at Muskegon which will enable the working of a car ferry service between there and Milwaukee.

The report of the first assistant postmaster-general, Perry S. Heath, says the marine post-office at Detroit is one of the best features of the work. He shows that there were 176,000 pieces of mail matter handled there in 1896, and this year the number will pass the 200,000 mark.

Gen. O. L. Spaulding, assistant secretary of the treasury, did the graceful thing this week for the Canadian neighbors who own the steamer Tepiaken. She had been assessed a fine of $3,000 for entering and leaving an American port without the proper papers. Gen. Spaulding looked the matter up and concluded that all ends would be served as well by imposing a fine of $100 and he reduced it to that amount.

The heavy fog was the cause of a double stranding at the Limekilns. The whaleback steamer S. D. Thompson, with the barges 111 and 116, went on the east bank of the crossing Sunday morning. They were coal laden, and one of the barges followed the steamer onto the shoal. The Saginaw and Wales released the fleet after lightering the consort.

Capt. John Horn, perhaps the oldest steamboat man along the river, died of apoplexy on Monday morning at the residence of his eldest son, Capt. John Horn, Jr., 44 Columbia street east. He came to Detroit 40 years ago, and after 25 years of strict attention to business bought into vessel property and identified himself with the ferry service between this port and Windsor. At the age of 73, or about a year ago he retired from business, both he and his wife being in bad health and went to live with his son, who is also a retired captain. He had 17 children, eight of whom are living. They are, Capt. John Jr., retired; Mrs. Capt. J. R. Innis, of Windsor; Mrs. A. R. Schulenburg, of Santiago, Cal.; Mrs. Capt. Thomas McGowan, of Detroit; Capt. George Horn, of the ferry steamer Excelsior; William Albert Horn, of the Wabash; Edward Henry Horn, tugboat owner; Charles Fred Horn, bookkeeper with Parker, Webb & Co. Capt. Horn had only been ill for two weeks. He belonged to the Royal Arcanum and the Knights of Honor.

Henry Folger, of the firm of Folger Bros., of Kingston, Ont., vessel owners and general merchants, visited this port a few days ago. The supposition is that Mr. Folger was here to have a talk with the officials of the Detroit Dry Dock Company concerning a steamer they propose to build for their St. Lawrence river route. Last summer they thought that a steamer line to run down the St. Lawrence river to Montreal, over the famous rapids, would pay, as they had the assurances of the New York Central road that it would co-operate in furnishing them with passenger traffic. The steel steamer America, with a capacity of 700 passengers, was put on the route, and cleared money. The steamer is a fine one of her kind, burning hard coal, which gives little smoke, and being sumptuously furnished throughout. It was the intention to give the American public an American route. It responded. The Folgers, while living and doing business in Canada, are American born, hence their interest in this side of the water, and their boat has been known as the American Line as opposed to the older line owned in Montreal, and which had formerly a passenger monopoly on the St. Lawrence river route.

It is the intention of the Star-Cole line to build a new excursion steamer some time in the near future, a successor to the Greyhound. The new steamer will not be ready for service prior to the season of 1899. This intention having been announced some of the newspapers have gone so far as to design the steamer and let the contract to Craig, of Toledo. "They are all talking through their hats," says Manager C. F. Bielman. The Greyhound will be overhauled and put in excellent condition for next season's business.

It is estimated that the Rockefeller fleet has moved nearly 1,500,000 tons of ore this season.

George A. Dupuis, of Detroit, gets the pile driving and timber work contract for the new car ferry slip and pier at Muskegon. Capt. John Smith, of Manistee will do the dredging.

The Canadian tug Tepiakan has had her fine of $1,500 cut to $100, by Assistant Secretary Sqaulding. Her offense consisted in stopping at Port Huron and leaving again without entering and clearing at the custom house.

The barges Tycoon and Mikado have been converted into car ferries at the Davidson shipyard. Capt. Davidson will use the ferries between Sandusky and Detroit to transfer the cars to the Baltimore & Ohio Railroad Co.

The Anchor Line steamer Wissahickon was released Wednesday after lightering part of her cargo into the Saginaw and part of her package freight into the steamer Promise. The Wissahickon grounded heavily, being out six feet forward.

From reports received here there are a dozen vessels grounded and ashore between Amherstburg and Mackinac, and such boats, too, as the Yale, Corona, Phœnix, Westcott, Wissahickon, etc.

A new gasoline boat of considerable size has left Monroe, Mich., where it was built, bound for Toledo. She measures 100 feet keel, 16 feet beam, and loaded draft, 8 feet. She has two 66 horse-power engines, and costs $7,000. The boat will go from Toledo through the Erie canal and tow the small schooner Salina.

E. H. Moreton, the chief promotor of the projected car ferry line between Detroit and Sandusky, received from the Treasury Department at Washington, an adverse reply to his request to be permitted to buy two abandoned ferries at Sarnia, Ont., and give them an American register. The Treasury Department holds that vessels can not be imported into the United States, even if the importers are willing to pay duty on them, for the reason that the highest courts have held that vessels are not objects of importation, and quite right, too.

CLEVELAND.

Special Correspondence to the Marine Record:

Although it has not been definitely settled, the new C. & B. steamer will probably be called Forest City. Manager T. F. Newman favors that name as well as other officers of the company.

The iron and steel tug built by the Bell Steam Engine Works, Buffalo, to the order of the Cleveland Tug Co., will be ready for service in about three weeks. She will be a powerful tugboat.

Ensign Jewell, U. S. A., who will assume charge of the recently established hydrographic office at Buffalo, will be detached from the Cleveland office next week and enter upon his new detail.

General Spaulding has reduced from $400 to $25 the fine levied on the steamer Cadillac, of the Cleveland-Cliffs Company's fleet. The fine was assessed on the ground that the steamer had violated the navigation laws by running through St. Mary's river at a speed in excess of seven miles per hour. Her master admitted that he had transgressed the letter of the law, but stated in explanation that his vessel was running light with a strong wind, and that it became necessary to exceed a speed of seven miles per hour in order to gain steerage way sufficient to keep her off the flats. In view of this explanation the collector at Marquette was notified to accept $25 in the full settlement of the fine.

A large scow owned by the contracting firm of L. P. & J. A. Smith is in the Cleveland Dry Dock for repairs.

The steamer Penobscot is receiving a new rudder and shoe at the Ship Owners' dry dock. It is expected that the steamer Andaste will dock to-day.

The Baltimore & Ohio has again entered the market for vessels to take grain to Fairport. It is claimed that the blockade at that point has been partially raised.

Capt. Howard Shaw, manager of the Shaw-Eddy fleet, of Bay City, visited this port on Wednesday.

The Cleveland Ship Building Co. has secured the contract for the quadruple expansion engines for the big steamer to be built by the American Steel Barge Co., at West Superior. The new boat will have Babcock & Wilcox water tube boilers.

Mr. Strasmer, marine superintendent of the Anchor Line, is quoted as saying that although some figuring has been done with ship builders, the Anchor Line would not place any orders for new boats this winter.

The Custom House figures show that during the past week coal shipments from this port have averaged about 10,000 tons daily. One day shipments were only 1,400 tons, but for three days the movements reached 12,000 tons. Some of the shippers find the big tonnage undesirable, owing to the condition of their docks. The engagement of the large

boats in the coal trade and the dullness in grain and ore have kept rates away down.

The Corrigan Transit Co. and others began a suit in the United States District Court on Monday to enforce a claim of $2,970 against 129,526 bushels of oats now on board the steamer Bulgaria, at Fairport. The suit is another of the many growing out of the delay of steamers at Fairport by reason of the scarcity of freight cars.

The steamer Andaste has arrived here from Ashtabula leaking. While entering that port on Tuesday she struck something harder than her own bottom in the channel near the end of the government piers and knocked a hole in her. She will be dry docked on Friday.

Assistant Secretary Spaulding has ordered the remittance of a fine of $100, which was imposed on the captain of the schooner John O'Neil by the collector of customs of this port. The master of the vessel had refused to show his right to engage in coast trade on demand, but the assistant secretary, to whom his appeal was referred, considered there were extenuating circumstances which warranted remittance of the fine.

Tonnage is plentiful here this week and coal charters have been lively. Ore shippers are not seeking boats and the old rates remain about the same, with, if anything, less demand for vessels.

FLOTSAM, JETSAM AND LAGAN.

The steamer building at West Superior will probably be named after Alexander McDougall, general manager of the American Steel Barge Co. and inventor of the whaleback model.

A Boston woman has written a paper lamenting the passing of the jolly old sea-dog of the ancient merchant marine. I suppose those Massachusetts women remember that the old-time sailor had a wife in every port.

A case of much importance to captains was begun by the federal grand jury at Duluth indicting Capt. Campau of the Fairbairn for dumping refuse in the harbor Sept. 4. The case will be tried later in the United States courts.

The shipchandlery firm of P. Hackett & Co. at Ogdensburg has erected two permanent range lights on the old pier near the Central Vermont elevator. The lights are sixteen and eighteen feet high, respectively, on white frame work, and will materially aid steamers into the lower harbor.

The tug Geo. H. Parker, which has been used by Capt. Reid in his wrecking operations on the Cayuga, was badly damaged by fire while lying at the dock at Harbor Springs on Monday. Her upper works aft of the pilot house were completely destroyed, and considerable damage was done below decks.

The small excursion steamer Island Chief burned to the water's edge on Sunday night and is a total loss. She has been out of commission for three years, and was insured for fire only. There is much talk about the docks over the fire, and many think it was incendiary. The steamer was owned by Klinhanz Bros., of Rochester.

The United States steamer Yantic is reported on Wednesday as having passed the gulf at Father Point on her way to Detroit. This is the condemned navy vessel which will be used at Detroit by the naval reserve corps as a practice ship, though no doubt a drill shed would have been better for them and they will soon get wearied of keeping a white elephant on their hands.

Capt. Alex. McDougall, general manager of the American Steel barge Co., has received notice from the Standard Oil Co. that it had been decided to take the big oil tank barge known as No. 81 to the Atlantic ocean. The matter had been contemplated for some weeks. The vessel will have enough cut off her stern so that she can go through the Welland canal, and she will shoot the Lachine rapids of the St. Lawrence.

It has been the ambition of some of the managers of grain elevators at the head of the lakes this season, to make a new record in loading vessels with wheat. The records seem to have been lost sight of, and several of them are disputed. It is known that some of the elevators, however, can load out 1,000 bushels a minute, roughly speaking. The grain this year is so dirty, as a rule, and so few of the larger classes of vessels take a full load at a single house, that record breaking for loading has not been practicable.

The total cut of the 17 mills on the Marinette river this year will be over 327,000,000 feet. The mills will continue running until it freezes, as all the companies are anxious to saw as much as possible this season. The Marinette and Menominee mills have manufactured more lumber this year than any other district in the world, a record the companies have had for several years. The value of this season's product in round numbers is about $4,000,000. Most of the lumber has been sold and will be shipped before navigation closes.

Kaiser Wilhelm der Grosse's time, on her famous first trip, was the fastest ever accomplished between Southampton and New York, and the record for a maiden voyage. Her time was 5 days, 22 hours, 35 minutes, giving an average speed of 21.39 knots per hour. The previous fastest passage from Southampton was 6 days, 0 hours, 31 minutes. The Lucania's fastest westward passages were at the average speed of 21.81 and 21.77 knots per hour. She has achieved an average of 21.84 knots on the eastward trip so that the best actual speed is still to be awarded to the older steamer.

E. H. Moreton of Detroit did not want to build car ferries to carry his Baltimore & Ohio cars between Sandusky and Detroit if he could get out of it. They would cost $75,000 each, and this is a big sum for any sort of an enterprise. He has for some time had his eye on the two ferries of the Grand Trunk road at Sarnia, abandoned after the tunnel was opened. They are large boats, perfectly stanch and with room enough for the business, in its infancy, at least. He applied to Washington for permission to buy them and give them an American registry, but met with a decided setback. As no foreign vessels can be admitted to American registry unless by special Act of Congress or under certain wrecking and repairing conditions.

MARITIME LAW.

THE LAMINGTON.

MERRITT ET. AL. V. THE LAMINGTON.

District Court, E. D. New York, January 23, 1897:

SALVAGE COMPENSATION.—Arduous and expensive services to a vessel on shore on the Long Island coast were rendered by a wrecking company, the cargo lightered to New York, and the vessel hauled off, but it was much damaged. No case being found where successful salvors have not been awarded more salvage than the value of their services would be on the basis of quantum meruit, held that a proper salvage for vessel and cargo would be $19,020.79, being $1,500 more than the expenses proved; but, the ship, only, being under the jurisdiction of this court, salvage for her is awarded at $6,900.

This was a libel by Israel J. Merritt and others against the steamship Lamington to recover compensation for salvage services.

BENEDICT, District Judge. This action is brought to recover salvage compensation for services rendered by the libelants to the steamship Lamington between the 5th and 26th days of February, 1896. The Lamington went ashore on the Long Island coast, 15 miles east of Fire Island, on the 4th day of February, 1896, and those in New York City interested in her requested the libelant, Israel J. Merritt to proceed to the relief of the steamer, upon the basis of a salvage compensation. Thereupon Merritt proceeded to the Lamington with a tug, and arrived shortly after 2 o'clock, in the afternoon of the 5th, and took charge of the operation. An anchor was got out, and strain put upon it, but it was impossible to move the steamer. The weather during the 6th and 7th was severe and work was impossible. On the 8th the sea had moderated, the steamer having meanwhile been driven over the outer bar to and on the main beach. Then the salvors boarded her, and commenced to rig spars and cargo gear for the purpose of lightening the ship. From that time until the 25th, when the weather would permit, the salvors were engaged in lightening the ship and saving such part of the cargo as was worth saving, which was placed in barges brought from the city of New York, and transported therein to the city of New York, and there sold. On the 26th, at high tide, the vessel was pulled off the beach, but grounded on the bar, and the next day she was pulled off the bar and taken to New York. The labor involved in this service was hard; the weather being very cold and much of the time very stormy. After the ship grounded on the shore, the labor was, for the most part, confined to lightening the vessel, and transporting to New York such of the cargo as was undamaged. The steamer, while on the beach was so damaged that, on being sold under the process of this court, she only realized $8,600 net. The cargo was libeled in the Southern District of New York, and the proceeds of the auction sale thereof amounted to the sum of $14,147.50.

That it is a case of arduous salvage services, carried on for many days in bad weather and severe cold, is not disputed. The only question raised relates to the amount to be awarded the salvors. The libelants, in order to show the nature and extent of the services they were called on to render have offered proof of the cost of services rendered, if paid for upon the basis of quantum meruit, which shows the value of the services to be the sum of $17,520.79. The arguments of the libelants is that, as this is a case for salvage compensation, the libelants must be awarded more than $17,520.79; otherwise they will receive no salvage compensation at all. No case has been found where, in awarding compensation for salvage services, the salvors have not been awarded more than the value of their services upon the basis of quantum meruit, and I am unable to see any ground upon which to deny these salvors some extra compensation for their risk and trouble. If these claimants had employed no salvors, but had undertaken to get this vessel and her cargo off themselves, they would upon the proofs have been compelled to expend $17,520.79. Taking the testimony of Merrit to show the exact value of the services rendered, I am of the opinion, that the ship and cargo should pay, in addition to the sum of $17,520.79, the sum of $1,500, amounting in all to the sum of $19,020.79 As the proceeds of the cargo are not in this court, this court can only award salvage against the vessel. The sum awarded as the proper salvage for both vessel and cargo should be apportioned between the vessel and the cargo in proportion to their value. The proceeds of the vessel amount to $8,000. The proceeds of the cargo amount to $14,147.59. This will make the salvage compensation to be paid by the vessel the sum of $6,900, for which sum the libelants may have a decree. I have fixed the sum above named upon the supposition that the testimony of Merritt as to the value of the services rendered is correct. It was not disputed on the trial. If, however, the claimants have any idea that his statement is exaggerated, they may have a reference to ascertain the value of the services rendered upon the basis of a quantum meruit, and the award will be modified accordingly.

NOTE. The reference being taken and proofs offered to oppose the valuation of services, and also to show additional expenses incurred by the owners of the vessel, it was ruled that, nevertheless, the award made should stand.

MOVING METAL BY MAGNETS.

Magnets are used in the plate mills of the Illinois Steel Company, Chicago, for the lifting and carrying of steel plates. These magnets are of the double-pole type and are attached to a crane. In connection with an electric traveling crane the magnets handle the plates with ease, and their transfer is prompt and rapid. After the magnet is placed on the plates to be lifted, says the Pittsburg Dispatch, the electric connection is made by means of an ordinary switch placed in a convenient position in the operator's cage. The magnets are so designed that they are practically waterproof and can be used for handling plates and other materials out of doors. The double-pole magnets in use by the steel company can, as stated, handle with safety five tons of metal, and for this only require about four amperes with a 240-volt current.

One of the difficulties confronting the Illinois Steel Company when it first commenced operating these magnets was the task of handling the plates one at a time. There was no principle or precedent to go by in bringing about the desired result, but an electrician of the establishment eventually solved the problem. By experiments he discovered that after the magnet had been lowered on the pile of plates and several plates taken up, that by pulling the switch out and breaking the current for an instant one or two plates could be dropped off at each breaking of the current, the plates next to the magnet retaining sufficient magnetism to hold them to the steel of the magnet itself until the current was again switched on. This operation was repeated until only one plate remained attached to the magnet, and it was then an easy matter to deposit it in the desired location.

A special magnet termed an eccentric pole magnet was designed and is in use for handling hot plates, and ingots of steel. An 8000-pound ingot at a low red heat is lifted with ease. Says the Dispatch:

"As a labor saving apparatus the huge magnets are beyond compare. They work swiftly and silently and save an immense amount of time. In fact the limit of their speed of action has never yet been discovered, because it has never been considered wise to test them to their fullest capacity, the ordinary, everyday rate of speed being considered sufficient to fulfill all requirements. Previous to the introduction of the magnet the work which it accomplished required a far greater expenditure of time, both of men and machinery, and on no occasion was the work done so efficiently."

The use of electric magnets in this manner has been limited, but where the iron and steel is to be handled in such shape that it is possible to secure a good contract, there seems to be no doubt that it is the most economical and rapid method of handling. There has been some hesitancy in adopting their use, on the score of a posssible falling of the metal and the endangering of life. It seems, however, that no such accidents have as yet occurred, and that by a right designing of the magnets, the men who are placing them are in no danger of a shock. In fact, handling by the old method is really the most hazardous. Further demonstrations of the safety and efficiency of this method of handling steel will probably lead to its more general adoption. Of course it is not an unknown quantity in other large steel plants, but each successive demonstration of good service broadens the application of electricity to mechanical purposes.

Mr. Edward A. Bunker, 27 William street, New York, is the agent of the new Japan paint which has merit without a doubt. The sample forwarded to the RECORD office and applied to a small piece of tin shows a hard smooth surface like enamel, and from all appearances is a most desirable surface covering and protector from the action of the weather. It is learned that the American as well as the Red Star Line out of New York have all their deck houses painted with it and it gives superior satisfaction. With the object of giving every opportunity for a practical test of this paint, Mr. Bunker will send on a sample whenever requested to do so. One coat over a proper grounding of ordinary paint of the same color is sufficient to give a fine hard polished surface and its wearing qualities whether under cover or exposed to the weather is said to be far superior to anything yet invented. Certainly, if the small sample received at the RECORD office is as the covering usually goes on, the article is a good one.

Particular attention is invited to the good results attending the construction of the Iowa. It is shown that this efficient vessel is able to carry 212 tons more than was calculated from her designed draft. The changes in her case cost only about 2 per cent. of the contract price. Of the gunboats, the report says that their first cost was remarkably low, aggregating about $2,000,000 for the nine, or not more than the cost of a first-class armored cruiser. The cost of their maintenance, particularly with copper bottoms and considerable sail power should be a minimum.

THE MERCANTILE NAVIES OF THE WORLD.

There was published in the MARINE RECORD of September 23rd a brief table of the World's Mercantile Marine. From the new edition of the "Repertoire General de la Marine Merchande," published by the directors of the Bureau Veritas, we are now enabled to print the official figures of the steamships belonging to the different maritime nations and measuring 100 tons gross, and upwards, as also the list of sailing vessels measuring 50 net tons, and upwards. In the sailing vessel section of the book we find the general total of existing sailers of over 50 tons put down as 29,315, with a collective net measurement of 8,894,732 tons, as against 29,348 ships and 9,136,560 tons in the previous year, and in connection with this it must be remarked that the falling off in the sailing tonnage was smaller last year when compared with that of previous years. The sailing tonnage is divided among the principal maritime nations, as follows:

NATIONS.	Ships, 1897.	Net tons, 1897.	Net tons, 1896.
Great Britain and Colonies	8,545	3,098,618	3,267,625
United States	3,785	1,332,829	1,358,467
Norway	2,594	1,103,284	1,176,174
Germany	1,067	544,420	566,973
Italy	1,605	451,408	472,002
Russia	2,096	399,359	363,046
Sweden	1,439	280,167	285,665
Turkey	1,428	270,075	261,096
France	1,360	269,667	252,940
Greece	1,165	246,429	246,196
Spain	1,108	164,169	167,143
Denmark	780	145,415	149,843
Holland	631	128,219	139,649
Chili	160	75,575	73,162
Brazil	322	72,168	73,519
Portugal	243	63,318	46,820
Austria-Hungary	188	57,289	67,951
Argentine Republic	152	35,946	38,071
Japan	234	31,750	32,880

The total is made up of the smaller fleets of the other nations. It will be seen from the above figures that while most of the countries included in the list have reduced the tonnage of their sailing fleets, six of them (Russia, Turkey, France, Greece, Chili and Portugal) have increased theirs, and one of them (Portugal) to a considerable extent.

As regards the steam tonnage, an important increase over the previous year has, as might be expected, to be recorded. The general total of the steamers of over 100 tons is given as 11,271, representing 17,889,006 tons gross, against 11,155 steamers and 17,089,596 tons in the previous year. The following list shows that, as also in the case of the sailing tonnage, Great Britain stands far in front of all the other maritime nations. The 11,271 steamers are divided among the different nations as follows:

NATIONS.	Stmrs., 1897.	Gross tons, 1897.	Gross tons, 1896.
Great Britain and Colonies	5,661	10,552,498	10,245,577
Germany	846	1,462,530	1,360,472
France	539	979,072	933,244
United States	483	772,002	761,707
Norway	605	576,598	494,612
Spain	355	492,393	519,315
Japan	318	408,503	313,563
Italy	235	371,468	344,523
Holland	217	337,517	320,794
Russia	350	314,293	277,302
Denmark	272	285,738	248,773
Sweden	470	280,374	233,777
Austria-Hungary	159	267,543	254,269
Greece	109	151,557	144,975
Brazil	218	143,669	139,305
Belgium	73	132,309	129,399
Turkey	73	70,338	69,572

The steamers of the other nations, some of them, (such as Servia, Bulgaria, Paraguay, Borneo, etc.,) possessing only one steamer apiece, go to make up the total. The figures in the above list show that the tonnage of the steam mercantile fleets of every nation (with the one exception of Spain) has increased since last year's lists were made up.

WRONG TONNAGE MEASUREMENT.

Assistant Secretary Spaulding at Washington gave a hearing to Benton Haslett and James H. Simpson, assistant to the general manager of the Flint & Pere Marquette Railroad Co., on an application for a re-survey of the company's car ferry boat running from Ludington. According to the statements made by Messrs. Haslett and Simpson the government officials, in determining the tonnage measurement of the boat, have measured from the hurricane deck, including the large open space occupied by railroad cars, and consequently have credited the boats with a tonnage far in excess of the figure claimed to be proper. The result is, that as all fees, taxes, drydock charges, etc., are based on tonnage, the ferry boat referred to is carrying a much greater burden than it should. It is stated that other boats, similarly constructed and of the same size, are credited with much less tonnage. The matter was examined into fully by General Spaulding and the facts have been referred to the collector at Port Huron for report. If this report is favorable, a re-survey will be ordered.

TO CLOSE ST. MARY'S FALLS CANAL.

General Superintendent E. S. Wheeler, stationed at St. Mary's Falls canal, has made application to the Secretary of War for permission to close St. Mary's Falls canal a little earlier than usual this year in order to expedite the construction of the new gates that are to be built this winter. If permission is granted the canal will be closed about November 15, or as soon after that date as the number of boats to pass through is decreased sufficiently to be accommodated by the Canadian canal for the remainder of the season. The early closing of the canal will work no hardship upon vesselmen, as the Canadian canal will be at their service.

Only once before has the canal been closed as early as November 15, and that was in the fall of 1880, just prior to the opening of the Weitzel lock, when it was necessary to build a cofferdam across the canal.

THE HARBORS OF SUPERIOR-DULUTH.

A presentation of the work now under way to deepen the head of the lakes' harbors so as to meet the demands of present traffic and the requirements of the near future was published by the Evening Telegram, Wisconsin, on the 23rd inst. Besides a half page drawing of the harbors, the following table showing the harbor traffic for the past thirteen years, among other statistics, was compiled:

ARRIVALS AND CLEARANCES OF VESSELS AND THEIR TONNAGE:

[THESE FIGURES ARE OFFICIAL.]

YEAR.	Vessels.	Av. Tonnage.	Tons.	Value.
1884	194	493	86,423	$ 306,120
1885	200	949	213,127	791,778
1886	316	855	200,724	1,217,286
1887	462	889	346,794	3,319,754
1888	812	1,109	730,942	5,684,571
1889	900	1,240	889,408	7,959,675
1890	1,256	1,327	1,083,938	14,454,869
1891	1,610	1,282	1,676,755	22,236,585
1892	1,940	1,290	2,050,319	26,875,610
1893	1,902	1,352	2,429,801	39,758,440
1894	2,000	1,415	2,596,514	42,416,712
1895	2,892	1,317	3,362,000	64,956,054
1896	2,920	1,471	3,137,575	59,635,999

LAUNCH OF THE WILLIAM H. BROWN.

There was launched from the yards of F. W. Wheeler & Co., West Bay City, this week, the large coast tug William H. Brown, built to the order of Messrs. Brown, Pittsburgh, Pa., and to be placed in the New Orleans trade.

The Brown is 156 feet long and 11 feet longer than the Robert Wilmot now on her way to New Orleans and also built by the firm of F. W. Wheeler & Co., who by the way, are making quite a record for building coast and ocean tonnage. The new tug is to be completed and ready to proceed to the coast by Nov. 15. With such tow boats as the two Wilmots and the Brown gulf ports will be getting fairly well supplied with towing capacity, which, up till quite recently had been a miserable feature at most of the minor ports on the Gulf of Mexico.

The following is the degree of completion of vessels of the U. S. Navy under construction, as shown by the records of the Bureau of Construction and Repair for Oct. 1, 1897: Battleships—Kearsarge, 45 per cent.; Kentucky, 44 per cent.; Illinois, 24 per cent.; Alabama, 25 per cent.; Wisconsin, 19 per cent. Gunboat—Princeton, 91 per cent. Torpedo boats—Rodgers, 96 per cent.; Winslow, 90 per cent.; Rowan, 83 per cent.; Dahlgren, 8 per cent.; T. A. M. Craven, 8 per cent.; Farragut, 11 per cent.; Davis, 58 per cent.; Fox, 46 per cent.; Morris, 0 per cent.; Talbot, 48 per cent.; Gwin, 48 per cent.; Mackenzie, 60 per cent.; McKee, 20 per cent.; Stringham, 0 per cent.; Goldsborough, 0 per cent.; Bailey, 0 per cent. Submarine torpedo boat—Plunger, 61 per cent.

REMINISCENCES.

SOMBRA, ONT., OCT. 20, 1897.

Editor Marine Record:

I notice an account in the RECORD of last week about fast passages and some of the vessels you mention were gay ships in my time. The Flying Cloud was a splendid craft. She belonged to Grinnell, Mintern & Co. She made Cape Horn in forty-six days. Crossed the Equator on the Pacific side in sixty-seven days and once made a passage from Cape Horn to San Francisco in twenty-eight days after logging 15¾ knots per hour. A three days' record she made equaled 992 knots, and in a squall she ran seventeen knots off the reel and that was not enough to measure her speed.

I once kept the log book of the Flying Cloud. We used Sumner's method, double altitudes, and always took amplitudes when available.

In 1842 I was a petty officer on the U. S. brig Somers, commanded by Alexander Slidell McKenzie, and she sometimes logged fourteen knots on a wind carrying royals at that and close hauled. When the mutiny broke out I saw Philip Spencer and two others hanged for participating in the trouble. From the log of the Somers I saw no less than seventeen knots recorded when she was under top gallant sails with the wind a point forward of the beam. I may also mention that two of Commodore Perry's sons were officers of her at that time.

Again I may call to your attention that Captain Harvey Rumage made some fast time in the schooner Heligoland in 1858, she was then owned by Mr. Borges, of Cleveland, and was sailed from Cape Race to the Lands End, Cornwall, England, in five days and twenty-two hours, and covered the ground from Quebec to Hamburg in twenty-four days although only a canal schooner.

I also notice you say that there is a new bridge in Milwaukee without center abutments. In 1849 Cleveland had a bridge of that kind at the Cuyahoga Furnace Works, large stones, each about two tons weight, were used to raise it, and, while I was putting sister keelsons into the steamer Alabama a freshet came on and swept bridge, abutments and everything else away although I held the Alabama with all the ground tackle and lines procurable.

It was Cleveland skill and industry that made Milwaukee harbor, Capt. Sims reached Milwaukee from Cleveland with dredge and scows and made a good deep harbor there. In 1863 I took the tug I. N. Masters to bring back the dredging outfit.

Mr. Patrick Smith was the pioneer dredge man. Even in the early days nothing was too much for him to tackle and from a recent item in the RECORD I learn that he is still to the fore. He began with a road scraper on a scow, then Mr. Knot built a dredge and Mr. Smith bought him out.

CHARLES GALE.

A FIREBOAT FOR TOLEDO.

A joint session of the Toledo city council considered this week a resolution declaring the intention of the citizens to vote on the question of issuing bonds for a fireboat and apparatus for the fire department.

The session was called at the urgent request of many business men who are interested in securing proper fire protection for the city. The resolution declares it necessary to issue and sell $75,000 worth of 25 year 4½ per cent. bonds to "provide fire boats, high pressure mains and apparatus for use of the fire department."

The question is to be submitted to a vote of the people at the November election, and the mayor will be requested to issue a proclamation at once so that the board of elections can make arrangements to receive the vote.

Chief of the fire department says delegations of business men and residents in all parts of the city had frequently petitioned for an extension of the service. We have no fire protection at Air Line Junction, Manhattan and Ironville, and the people from these sections of the city are especially urgent in their demands.

A majority of the fire commissioners favor the idea of building a fire boat.

General Wilson, Chief Engineer, Corps of Engineers, U. S. A., says that during the fiscal year ending June 30, 1897, there was expended on river and harbor improvements, $13,461,395. For the fiscal year ending June 30, 1899, his estimates are: Continuous work authorized by Congress, $18,876,007; for other works, not provided for by continuing contracts, $29,452,153.

THE U. S. LIFE SAVING SERVICE.

Hon. S. I. Kimball, General Superintendent of the United States Life Saving Service is, as the position which he holds implies, the best authority on matters pertaining to life saving methods and equipment in this country, and, we were nearly saying any other country also, however, we must qualify in so far as the extent or limit of our knowledge may carry us.

The present general superintendent may be said to have inaugurated the service, conducted it successfully and finally placed it in the civil service with a splendid code of rules, discipline and an esprit de corps running through the entire department second to no other body of men in the service of the country and so that the U. S. L. S. S. may now be considered an important branch of the Treasury Department.

In presenting a half-tone picture of this veteran leader of men whose duty and province it is to save life and property from the perils of the deep we take this opportunity of printing an advance abstract report that the general superintendent of the life saving service made to the Secretary of the Treasury showing that while there was an increase in the disasters during the year to 669, the number of vessels totally lost was smaller than for several years, being but 53, as compared with 67 in 1896, and 73 in 1895.

Of the total number of disasters, 394 occurred to documented vessels and 305 to small and undocumented craft—sail boats, row boats, etc. On board the documented vessels were 3,739 persons, of whom 3,697 were saved and 42 lost. On board the undocumented vessels there were 706 persons, of whom 695 were saved. The estimated value of the documented vessels involved was $5,132,485; that of their cargoes $1,975,340, of which $5,108,895 was saved and $1,998,930 lost. The estimated value of property involved in the disasters to the undocumented craft was $221,745, of which amount $182,280 was saved. In addition to the number of persons saved from vessels, 74 others were rescued from the peril of drowning under various circumstances. The life saving crew saved and assisted to save during the year 471 vessels, valued, with their cargoes, at $3,015,040.

The work of the life saving service on the Great Lakes presents some interesting figures for the year as compared with 1896. The lakes are divided into three districts, the ninth being composed of Lakes Ontario and Erie, the tenth of Lakes Huron and Superior and the eleventh of Lake Michigan. Following are the details of the work of the service for the three lake districts in 1897, as compared with 1896:

Ninth district—Number of disasters, 1897, 104; 1896, 69; value of vessels, 1897, $530,410; 1896, $350,280; value of cargo, 1897, $211,965; 1896, $144,490; total value of property, 1897, $742,875; 1896, $495,220; number of persons on board vessels, 1897, 426; 1896, 325; persons lost, 1897, 1; 1896, none; persons saved, 1897, 425; 1896, not reported; number of shipwrecked persons succored at stations, 1897, 31; 1896, 4; number of days' succor afforded, 1897, 37; 1896, 4; value of property saved, 1897, $702,890; 1896, $484,830.

Tenth district—Number of disasters, 1897, 55; 1896, 75; value of vessels, 1897, $545,295; 1896, $1,615,085; value of cargoes, 1897, $167,540; 1896, $479,500; total value of property, 1897, $712,825; 1896, $2,094,585; number of persons on board vessels, 1897, 391; 1896, 584; persons lost, 1897, none. 1896, 1; persons saved, 1897, 391; 1896, not reported; number of shipwrecked persons succored at stations, 1897, 25; 1896, 13; number of days' succor, 1897, 49; 1896, 24; value of property saved, 1897, $663,850; 1896, $1,806,725; value of property lost, 1897, $48,975; 1896, $287,860; number of disasters involving total loss of vessels, 1897, 1; 1896, 5.

Eleventh district—Number of disasters, 1897, 117; 1896, 104; value of vessels 1897, $771,275; 1896, $1,355,715; value of cargoes, 1897, $167,855; 1896, $129,630; total value of property 1897, $939,130; 1896, $1,485,345; persons on board vessels 1897, 513; 1896, 1,184; persons lost 1897, 4; 1896, none; persons saved 1897, 513; 1896, not reported; number of shipwrecked persons succored at stations 1897, 57; 1896, 40; number of days' succor afforded 1897, 86; 1896, 45; value of property saved 1897, $891,010, 1896, $1,357,595; value of property lost 1897, $48,120; 1896, $127,750; number of disasters involving total loss of vessels 1897, 6; 1896, 6.

During the last year the government accomplished finally four ships, the Massachusetts, Oregon, Ericsson and Brooklyn, while eleven vessels have been accepted preliminary and subject to final test, viz.: Iowa, Nashville, Wilmington, Helena, Annapolis, Vicksburg, Newport, Wheeling, Marietta, Porter and Foote.

CARNEGIE-ROCKEFELLER SYNDICATE.

A special from Duluth says: According to well established information received here J. D. Rockefeller and Andrew Carnegie have decided to engage extensively in the manufacture of iron and steel at Duluth. They are reported to have secured control of the Ironton structural steel plant and the West Duluth blast furnace, while in a few months Rockefeller will come into full possession of the West Superior steel plant. A syndicate that is intimately connected with the Carnegie-Rockefeller combination is reported to have procured an option on the Jay Cook water power of the St. Louis river, and this will be developed also in connection with new facilities for the manufacture of steel.

THE SCHOONER F. W. GIFFORD FOUNDERS.

The Chicago schooner F. W. Gifford sprung a leak and foundered in Lake Michigan, off Point Betsey, last Thursday night. Her crew took to the yawl boat, and after drifting around Lake Michigan for three hours were finally picked up by the City of Sheboygan, bound for Chicago with a cargo of lumber. The Gifford, which was one of the best vessels of the sail fleet, was in charge of Capt. Charles Kronhert and had a cargo of iron ore from Escanaba to Fruitport. Running before a strong northeast wind in a big sea and rolling badly, she sprung a leak during the night and foundered within three hours. The night was very dark and in the big sea the crew of eight, crowded into the little yawl, were in constant danger of having their boat swamped. The use of oil prevented this. Most of the men saved their effects and there was time enough to provision the boat and equip it with a torch, compass and foghorn. The torch was the means of signaling the Sheboygan.

HON. S. I. KIMBALL, U. S. LIFE SAVING SERVICE.

Peterson, Tate & Co., of Newcastle-on-Tyne, England, who are owners of many vessels, have made the required deposit of $50,000 to provide a fast line of steamers between Canada and Great Britain to compete with the fast lines from New York. There are to be four steamers equal in general character appointments to the Lucania or Campania and steaming from port to port at a rate of nearly 500 knots per day. This will give a passage of about six days from Liverpool to Quebec in summer and but a little over five from Liverpool to Halifax in the winter time. For this service Canada gives a subsidy of $500,000 a year for ten years and the Imperial government $250,000.

NICKEL STEEL IN VESSEL CONSTRUCTION.

In a paper dealing with "Improved Materials of Construction and their Influence on Design," read before the British Institution of Civil Engineers, Prof. J. H. Biles, of the Glasgow Univesity, states that "it may be assumed that nickel steel, 50 per cent. stronger than mild steel can be produced with certainty. The relative weight of parts subjected to longitudinal stress may be reduced 33⅓ per cent. If we assume that to resist compressive strains we have to reduce frame spacing, and can only take advantage of the increased strength of the material to the extent of one-half, we shall only gain 16⅔ per cent. in transverse framing material. The total gain in a 10,000-ton ship will be 1,000 tons on a weight of 6,000 tons—this is 16⅔ per cent. It was found in passing from iron to mild steel that from 1½ to 3½ per cent. was added by increased weight of butt straps, laps, etc., and though a smaller percentage would probably be added in this case, some allowance should be made. It seems as if from 14 per cent. to 15 per cent. of the weight of steel could be saved. This reduction in the weight of hull can be used to increase weight of machinery and coal. The extra speed resulting therefrom in a 20-knot ship will be 1¼ knots with an extra total coal consumption of 13 per cent. To produce a mild steel vessel carrying the same dead weight of cargo and having 21¼ knots speed, the dimensions would have to be increased by 10 per cent., the horse-power by 40 per cent., the first cost by 20 per cent., say $350,000 (supposing passenger accommodation to remain the same). Supposing the cost of workmanship is the same in a nickel steel vessel of the same dimensions as in one of mild steel (it will probably be less) we should have as the only difference in first cost of the two vessels that between 6,000 tons of mild steel and 5,000 tons of nickel steel. The former might cost $200,000, but the latter could hardly cost $200,000 plus $350,000, which would be $550,000, and anything below this would bein favor of nickel steel ship, both in economy of first cost and in economy of upkeep. The coal bill in the mild steel ship would be 19½ per cent. more than in the nickel steel ship. The 5,000 tons of nickel steel could probably be bought at present for $375,000; leaving a balance of $175,000 of saving. These figures are given to show the great value which increase of strength of material has upon the design of a ship and upon its first cost. In other types of ships savings in weight and engine power could be effected. In the low-powered ships the gain would be less. Take the case of a 14-knot Atlantic ship of about 7,000 tons in addition to coal to do her voyage. She could carry 10 per cent. 700 tons more cargo, if built of nickel steel. A mild steel vessel large enough to carry this extra cargo and maintain the same speed would cost $50,000 more. This, added to the cost of the mild steel, the vessel carrying 7,000 tons, would give a sum which would enable the builder to pay $45 per ton for nickel steel. The extra cost at $75 per ton would be about 15 per cent. of the first cost of the vessel. As there would be only 5 per cent. less of coal and machinery expenses paid out to repay the extra first cost, it is doubtful whether, at $75 per ton in a vessel of this size, it would pay to build in nickel steel. It will be of interest to know what chance there is of this material being produced much more cheaply. No reference has been made to reductions in weight of machinery due to the adoption of nickel steel and their effect upon designs."

TO SAIL BY SMELL.

A French newspaper suggests a new system for the prevention of marine accidents, which proposes to place strongly smelling chemicals in floating receptacles to be attached to the existing light buoys and bell buoys. Cliffs and dangerous shoals are very often hidden by thick fog, which does not allow light to penetrate nor sound to be heard until too late, while the strong smell of some chemical substances would be carried far away and would indicate to the seafarer with a keen olfactory sense at great distance that he is nearing a dangerous coast. There are a number of strong-smelling salts that might be used, but it is feared that the distribution of the odor would depend too much upon the wind. While sound travels, at least to some extent, in an opposite direction to that of the currents of the air, the odor of aromatic chemicals would never be wafted any other way but that the wind was blowing.

The Japanese government has placed an order in France for the construction of an armored cruiser of 9,400 tons. It is said that other orders will follow.

MARINE RECORD

ESTABLISHED 1878.

Published Every Thursday by

THE MARINE RECORD PUBLISHING CO.,

Incorporated.

GEO. L. SMITH, President.

C. E. RUSKIN, - - - - Manager.
CAPT. JOHN SWAINSON, - - - - Editor.
THOS. WILLIAMS, Chicago, - - Associate.

CLEVELAND, Western Reserve Building.
CHICAGO. Royal Insurance Building.

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THE MARINE RECORD PUBLISHING CO.,

Western Reserve Building, Cleveland, O.

Entered at Cleveland Postoffice as second-class mail matter.

CLEVELAND, O., OCTOBER 28, 1897.

It is seldom that there can be counted four days of continuous fog on the lakes, but that is the record this week. The fog signal at Mackinaw City was blowing for upwards of eighty hours at one stretch, and according to the latest report still continues. From this cause alone about a dozen more strandings are reported, and the steamer F. H. Prince, ashore near Milwaukee, will prove a serious and expensive casualty.

On request of a lady to be examined relative to her ability to take charge of her own yacht, the British Board of Trade refused the request on the grounds that it would not permit a woman to be examined for a master's certificate, as the term "master" clearly implies that only men are eligible. The members of the Board of Trade must surely be all bachelors, a woman can't be a master, Ay! Oh, Lord, Oh Lord, how the spirit doth groan under such an unjust and ignorant assumption, at a later date a righteous vengeance will surely descend upon the bumpety bump heads of those vile slanderers of the sex divine, and then they will learn that the hand that rocks the cradle is able to take a trick at the wheel or to shoot the sun with a horse's head. We know a little better in this respect than the Britishers, as certificates have been granted to several women to handle their own tonnage and consequently they are eligible to take charge of any man's property. At the time and place of writing we are almost within a stone's throw of a lady captain's domicile.

Fogs which are prevalent on the lakes at this season of the year are working sad havoc with vessels and strandings are of almost daily occurrence. The most serious this week was the stranding of the Lehigh Valley Liner Tuscarora on Thunder Bay Island, being several miles out of her course. Although the weather was very thick it is reported that the Tuscarora was going along at a good clip, and it would appear so as when she brought up it was found that she was neaped about six feet forward; soundings showed only two fathoms amidships and four fathoms aft. There can be no doubt but that fog is the greatest danger which vessels can now possibly encounter, and every effort should be made by the Light-House Board to increase the efficiency of the fog signals now in use as well as to add to the system year by year. When the Weather Bureau begins to issue lake fog charts we will then have a graphic delineation showing where these valuable aids to navigation can be placed to the best advantage, but, even at this time, well advised steps could be taken towards assisting the vast general commerce of the great West transported as it now is by nearly one hundred million dollars worth of vessel property.

BOUND UP OR DOWN.

We have got so far in the "sailing and steering rules" as to give the descending vessel, when in the rivers, the right of way, irrespective of all other enactments. This feature was an imperative one when steamers had a long tow behind them, as of course in narrow waters they must be sent ahead at a greater speed than that of the current, so as to keep clear of their barges.

Although the foregoing rule has but lately been given the sanction of the law, though otherwise in effect through custom, there is another feature which after being brought before the notice of the lake marine and touched upon from time to time, has been allowed or permitted to drop in abeyance until again revived, this time from or by Chicago vessel interest, and as Chicago is a synonym for "get there" it will surely be a go this time.

In this connection we refer to the project of laying out an up bound and a down bound track, principally for the safe navigation of Lake Huron. Such a feature has much to recommend it and not a particle of logic to advance against it. It is now nearly a decade ago since Capt. Thos. Wilson, of Cleveland, strenuously insisted upon the advantages of having two locks at St. Mary's Falls canal, this has now been accomplished, furthermore he suggested an up and down bound canal on Lake St. Clair and to follow this departure wherever possible or necessary.

We now hear from that successful champion of lake interests, Capt, J. S. Dunham, who says in discussing this double lane system: "The time seems to have come for some action in this matter. Providing separate courses for up and down bound boats would appear to be the most simple way to arrange the matter. There is practically no danger at all of one fast steamer running over a slower one bound on the same course, for the difference in speed would not be more than four or five miles an hour in extreme cases, and by fog signals each boat would become aware of the location of the other in time to avoid a collision. These two courses should be used in all sorts of weather, fair as well as foul. By running over the courses in fair weather captains become accustomed to them, as they are now accustomed to the old ones. They would learn the running time of their boats in various conditions of weather on each course, and navigation in a fog would mean less anxiety to them than it does now. The addition of a few hours on the up passage on account of running out into the lake would be more than paid for by the additional safety under this ruling. What a double track has done for railroads it would also accomplish for the dangerous route on Lake Huron."

The lane route being established across the Atlantic, where steamers have a three thousand mile course with plenty of sea room, argues more strongly than ever in favor of a Lake Huron lane for up and down bound boats, and as Capt. Dunham very succinctly states: "The aim is to have a double track course for up-bound and down-bound boats along the west shore of Lake Huron from Port Huron northward to Presque Isle, just above Alpena. Nowhere in the world is there more commerce in open water in so restricted a road as that where the vast traffic of Lake Smperior joins the mighty flood of commerce from Lake Michigan, and there are transported 200,000,000 bushels of grain, 11,000,000 tons of iron ore, and 3,000,000 tons of coal, besides sufficient lumber to build a city every year and merchandise of incalculable value. All this commerce is converged where the course from Lake Michigan joins that from Lake Superior. A fleet of not less than 100 boats every twenty-four hours comes together at that point, and every twenty-four hours another fleeet of 100 vessels passes up. All the way down Lake Huron to the entrance of St. Clair river collisions have been freqnent since boats began to sail the lakes. The region seems to be peculiarly subject to fogs, and all precautions prescribed by the government and carried out by captains have been futile in preventing the disasters which have made the Lake Huron course a nightmare to captains and a menace to vessel owners. For every collision there have been a hundred narrow escapes."

There need be no undue measures taken if it becomes apparent to the majority of owners that lanes for up and down bound boats are conducive to safety. It has been said that "the means of compelling captains to follow the two courses is not altogether clear, but it is thought the government inspectors of steam vessels can reach some method by which rules of navigation will provide for two courses over this dangerous water-way. Congressional action would first be required, and perhaps an international agreement with Canada, but Canadian boats have become so few in general lake traffic that they do not count for much." Compelling, indeed, there is no necessity for this term to be used, but of course this is from the daily newspaper scribe. All that is required is for an owner, agent or managing owner of a fleet or fleets, to request masters in that line to follow a certain course and the instructions will then be carried out.

Let us at this time give due warning that the least the better, of congressional action or government inspection over the business of vessel owning or sailing. Laws enacted this year would require to be annulled next year, or if not exactly requisite it would be desirable, for there is such a thing as having too much governmental supervision over the conduct of ordinary business.

UNDERWRITERS, OWNERS, MASTERS.

It has been widely circulated that general agents of marine insurance companies are keeping tab on the masters of vessels who get into trouble through frequent groundings, collisions, etc., and thus cause an outlay of money from the coffers of the underwriters. It has been further stated that an effort will probably be made to discriminate against masters that are on this so-called black list by granting insurance a fraction per cent. off the policy if the vessel owner would agree to ship another master, one for instance, against whose name no mark stood. Well! there is a good deal of smoke in the foregoing with but a slight particle of fire, or rather no ignition whatever. Underwriters insure, vessel-owners conduct the business of their floating property and engage masters to sail it, one is the assurer and the other the assured, no risk, no underwriting. Vessel owners have not as yet thrown their hands up, or down, and permitted insurance agents to say whom they may or may not employ.

Vessels get into trouble, ground, strand, collide, founder, get on fire, spring leaks, etc.; and such they are apt to do even when in charge of the most skillful and careful pilots, for this reason an assurer secures the business of indemnifying the assured in the event of an expenditure being necessary, otherwise, his vocation would be gone, and this is about all there is to the black list. It is as ancient as the hills that the English Lloyds keep such a list, yet the greatest wrecker that ever cast away a vessel so availed himself of his opportunities as to destroy direct evidence of his intentions in the matter, and while underwriters who were concerned in the loss might accuse him of moral turpitude they could not assail his practical or professional ability to conduct anything he undertook to handle, or sail to a port of destination, that is, providing he was a tried and capable man.

There is another phase (or p'raps a dozen of them) which might as well be looked at in this matter and that is the fact that governments regulate the competency of the individual, or vice versa—again many masters are owners; or part owners of the craft they sail, or, on the other hand, they enjoy the most implicit confidence of the shareholders and if one company won't insure, why another will, therefore, the master continues in his position.

What a splendid chaos underwriters would launch into if they began to make invidious distinctions between man and man, seems they would finally reach perfection and get a master to sail an uninsured boat and still make money out of him without receiving any premium, as, of course, there would be no reason for paying premiums when a boat was in charge of an infallible; on the other hand, thinking they had nearly reached perfection and premiums dropped to a minimum they might burn their fingers, pocketbooks or bank accounts by finding the infallible turning out a demon destructive and mulcting them sweetly for all there was in it, simply through a temporary mental aberration, which, after passing away, left their protege in better shape than ever before and so that he could go and do it over again, much easier next time after being taught by former experiences how to squirm out of an apparently tight place from an average adjuster's point of view.

Instead of paragraph writers trying to impose upon men ignorant of handling a ship's business when she gets into trouble with insurance companies, and scribbling stuff annoying to both owners and masters, we look forward to the time, in the very near future, when underwriters will be eager to award due credit, financial emoluments, to the master or engineer who through skill and praiseworthy efforts turn a probable large loss into a lesser one, or bring the vessel in safety through a time of trial without any appreciable loss at all. It is better to build up than to pull down, and men are more often incited to heroic deeds when they know that their skill and efforts will be duly appreciated than if they are in ever so slight a dread of the consequences, say, of a mishap, or when laboring under temporary unfortunate conditions.

LAKE FREIGHTS.

The coal rate to Lake Michigan is now up to 40 cents with 30 cents to Lake Superior ports and 50 cents was paid Cleveland to Portage.

Iron ore rates have continued steady during the entire month, with but a moderate inquiry for tonnage. Marquette tonnage is now being asked for but no increase in freight rates is offered.

There is nothing new to report in grain charters although it was thought that the detention of vessels through the fog prevailing all week would boost up the Chicago rates, but it is steady as it has been all month and only 2 cents is quoted on wheat and barley from Duluth.

There is a fair demand for lumber carriers at Lake Superior ports and from the head of the lakes to Lake Erie ports $2 is offered. There is very little tonnage on the market at present.

WE have this week received a copy of the report of Major Thomas W. Symons, Corps of Engineers, U. S. A., relating to the proposed ship canal from the lakes to the Hudson river, detailing all steps taken in the preliminary survey and the several routes spoken of clearly illustrated. Major Symons says in one portion of his report: "The pleasing pictures of great ships loading with grain, flour and produce of all kinds, at Chicago, Duluth, etc., and proceeding thence to trans-Atlantic ports, and arriving at these lake ports with foreign cargoes, I cannot believe will ever be realized to any great extent even if a ship canal connecting the Great Lakes with tide water should be built." In this connection the Major points out the great difference existing between the build and equipment of lake and ocean craft—though by no means attempts to decry lake-built tonnage In fact he is inclined to show the magnitude of lake commerce and the excellence of the latest built floating property.

AGAIN should an effort be made to have duly licensed officers placed in charge of all sailing craft or tow barges. Some owners may feel that such a proceeding would take a large number of men out of the market or field of employment and that consequently wages would increase to such an extent that there would be nothing left for the vessel. In answer to this it can be said that the measure need not be retroactive, those now filling such positions might be granted certificates of servitude while those obtaining charge in the future would require to have certificates of competency. This one simple feature has much to to do with the future prosperity of those who own floating property, as well as the class of men who carry out the practical work for them; by all means look to a higher standard year by year, the more proficient the man, the better the servant or employe, which is the same thing.

A FRENCH authority suggests that strong smelling chemicals might be attached to buoys or placed in the vicinity of reefs for use in thick weather. The objection to this idea is that the odor would be likely to travel with the wind and therefore sometimes give a leeward warning at a time when a weather one was desired. Contrary to the views entertained by some people, it is not always calm weather in a fog. It not unfrequently blows a gale of wind when the weather is as "thick as a hedge." The suggestion, however, can by no means be considered an original one, as it is one of the most ancient sayings extant for old sailors to remark that they "smell the land," on nearing a coast line and for that matter, any old thing that has life in it is supposed to feel frisky on "smelling the land," so also do they say that they can tell they are on soundings by "seeing their breath."

WOMEN NOT MASTERS.

The Board of Trade has refused to grant a yacht master's certificate to Lady Ernestine Brudenell, a yachtswoman who has prepared herself to undergo all the examinations requisite for a master's certificate. She asked to be examined by the Board of Trade, pointing out that she merely wanted authorization to command her own yacht and did not desire to serve on board other ships, but the board replied that it would not permit a woman to be examined for a master's certificate, as the term "master" clearly implies that only men are eligible.

ATLANTIC RECORDS.

The breaking of the trans-Atlantic record for speedy passages by the new steamer Kaiser Wilhelm der Grosse, has awakened much interest in this subject and arouses the curious to speculation as to what may be the speed of the future. The struggle for a reduction of time has been most vigorous on the part of builders, and every effort is made to accomplish this result withont the sacrifice of comfort or safety. We are told that the Oceanic, now being constructed for the White Star line, and which is fifty-seven feet longer than the Kaiser Wilhelm der Grosse, and twenty-five feet longer than the Great Eastern, is not expected to eclipse the Der Grosse in speed.

Since 1870 the struggle has been determined. At that time the Inman company lowered the record from Queenstown to New York below the eight-day limit, and it was ten years before the record was reduced one day. This was done by the Alaska in 1881. In 1885 the trip was made in less than six days, and in October, 1894, the Lucania made the westward passage in five days, seven hours and twenty-three seconds—the best record.

In the longer run from Southampton the new German steamer made the passage in five days, twenty-two hours and forty-five minutes, and her first trip, too, before her machinery was supposed to have got down to good working trim. In one day she covered nearly six hundred and sixty statute miles, a phenomenal speed.

The possibilities for increased speed are great, and doubtless these records will be broken again and again as the skill of constructors increases. But every care should be taken that safety is not neglected. There should be no ocean racing as such. The speed is not worth the danger, at the same time, rapid transit with safety is demanded, and even the time of King William the Great will no doubt shortly be eclipsed.

THE WORLD'S NAVAL DRY DOCKS.

There is no problem connected with the naval affairs of the United States of such paramount importance as the construction of adequate dry docks. Unfortunately there is no naval problem regarding which the public is so ignorant and apathetic. To awaken an intelligent interest in the matter has been the endeavor of every writer and journal of importance in the country; but the effort proved futile until the country was subjected to the humiliation of having to send its finest battleship to a British dockyard to have its bottom scraped and painted.

Ridiculous as the situation was, it served to teach the country of the absolute necessity of providing dry docks for our navy if that navy is to be available in time of war. The dry dock is as much a concomitant of the modern warship as her engine or fuel. In time of peace the fouling of the steel hnlls necessitates docking and cleaning at intervals of a few months, and what little experience has been gained of the behavior of modern war ships in action shows that an engagement of any importance will almost certainly necessitate the subsequent docking of many of the ships engaged.

The board of experts which was recently appointed by Admiral Bunce to inquire into the docking requirements of the present and prospective navy has reported that ten new docks should be constructed at a total cost of $11,075,000. We have at present eleven such docks, of which only three can accommodate the largest battleships. With the construction of the new docks we would possess 21 altogether, none too many, if we consider the probable increase of the navy in the near future.

According to the Scientific American of the total 622 dry docks in the world, about 348 are owned by Great Britain, and of these 266 are situated in England, Ireland and Scotland. So essential does that country consider the dry docks to her commercial and naval supremacy that she possesses as many as 10 in Australia, 15 in China, 30 in India and the East Indies, and in Canada and British Columbia there are 12. At the great naval station at Portsmouth there are nine dry docks with 33½ to 41½ feet of water on the sills, and the other great dock yards are all liberally supplied. Now, although our needs do not call for any such provision as this, it is nevertheless certain that our recent naval activity has greatly outstripped our dry dock accommodation.

The report states that while an outlay of $11,075,000 is recommended, there is no urgent necessity for constructing more than five of the docks at present. It is suggested that the amount—$5,775,000—needed for these should be voted in annual installments, as is now done in the construction of the new battleships and cruisers. The list of the proposed docks is as follows: At Boston, one concrete dock 700 feet long, $1,500,000; at New York, one concrete dock 500 feet long, $1,200,000; at Norfolk, one concrete dock 500 feet long, $1,100,000; at Port Royal, improvements, $25,000; at New Orleans, floating graving dock, $750,000; at Mare Island, one concrete dock, 500 feet long, $1,100,000. Total, $5,675,000. In addition to the docks urgently needed, the board recommends that structures be built at these places: At New London, fresh water basin, with dock, $1,000,000; at Newport News, a steel floating graving dock, $650,000; at Tortugas, a steel floating graving dock, $650,000; at San Francisco, concrete dock at Yerba Buena, $1,500,000; at San Pedro, concrete dock, 700 feet in length, $1,500,000. The report also states that ultimately dry docks should be constructed at Pensacola, Florida, and Galveston, Texas.

It will be noticed that the materials of which our existing dry docks have been built, viz., stone and wood, is not recommended for the new structures, steel and concrete taking their place. As regards concrete, it may be said that if the work is well carried out a dry dock of this material has all the advantages of solidity and permanence offered by one of granite without the drawback of excessive cost. The difference in cost is great; the proposed concrete dock at Mare Island is to cost $1,100,000 against the reputed cost of $4,000,000 for the present stone dock. Moreover, a concrete dock can be built in considerably less time.

There will be no objections raised against the complete abandonment of the timber construction by those who have faith in this system. But while it is true that there are timber docks that have been giving good service for from 30 to 40 years, there have been failures, or partial failures, like that at the Brooklyn navy yard, which render the system hazardous in a work of such pressing necessity as the speedy provision of docks for a nation's navy.

An even greater innovation would be the construction of steel floating and graving docks, as proposed. The docks would compare favorably in cost with the discarded timber docks, the estimate of $650,000 being about equal to the cost of the Brooklyn dry dock No. 3, and probably less than the latter structure will have cost by the time it is put in serviceable shape. It also has the advantage of being movable, at least within sheltered waters.

The policy is a liberal one but not more liberal than the situation demands, and it is sincerely to be hoped that Congress will act promptly in placing the new construction under way, In view of the apparently adverse reports on timber graving docks at the United States Navy Yards, it is interesting to know that 22 of the 30 graving docks on the banks of the Thames, in and near London, are wholly of wood. Six of the remainder are partly wood and only two are of stone.

EASTERN FREIGHT REPORT.

According to the weekly freight report issued by Messrs. Funch, Edye & Co., New York, for the eastern seaboard they state that the active inquiry for grain prevailing at the end of the preceding week has continued, and resulted in a heavy list of charters. The demand lately preferred by owners for part cargo of oats has been met in a number of fixtures, but some further business has been unsuccessfully worked under this restriction, as various ports demanding heavy grain could not dispose of oats. The inquiry for prompt boats for October loading has been most urgent, and freights for such reached 4s.; for early November 3s. 9d. from Range can be secured; for later term we quote 3s. 7½d., with 3s. 6d. as nominal figure for January and later months, with little inquiry beyond end of December. Large bottoms command from 2s. 10½d. @ 3s. to picked ports, 1½d. extra for French ports or Hamburg, fixtures on that basis being generally conditioned on part cargo of oats at 4½d. per quarter under the rate for heavy grain. It looks, however, as if the inquiry had for the moment spent itself, and that for the next few days we may expect a very much less excited freight market. Berth freights are fairly active, but for the U. K. not quite on the level secured by large boats for this business. The Atlantic cotton ports are showing some interest in boats for November, loading around 35s. Case oil business is not pressing for steam tonnage; the demand for timber continues very light.

Business in sail tonnage still continues restricted by the limited supply of available vessels. Rates consequently continue firm, and, in some instances, higher freights have been obtained, particularly for case oil to the far east. In barrel oil for Europe but little has been accomplished for want of suitable ships, but we find the demand a little less urgent. The timber trade from the Gulf is suffering under the yellow fever scare in Southern ports, and business is in consequence much hampered. There is some inquiry for lumber to the River Platte, but only for close at hand vessels, and freights in this line are less firm. The demand for general cargo tonnage to the colonies is limited to vessels affording distant loading, the berth for the immediate future being well covered, and rates in this direction continue firm.

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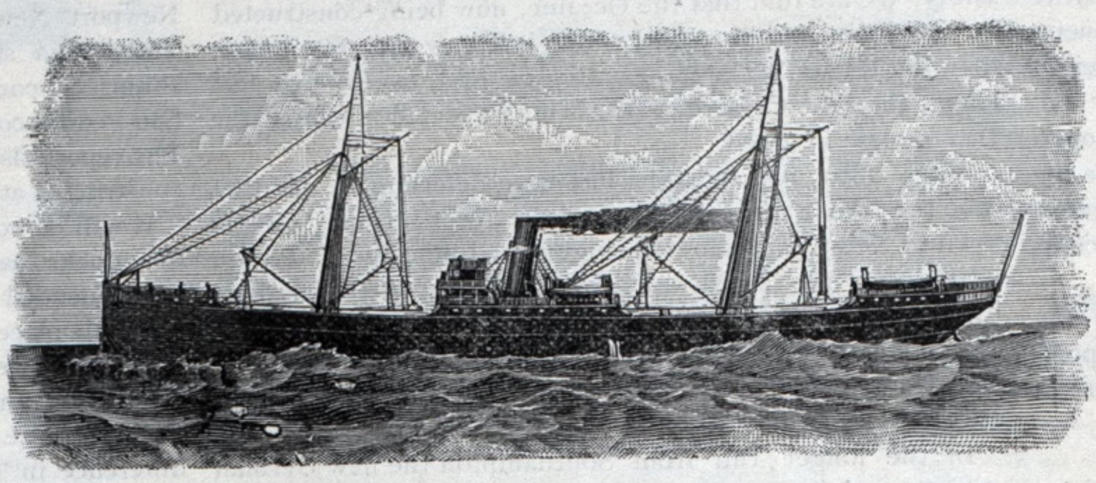

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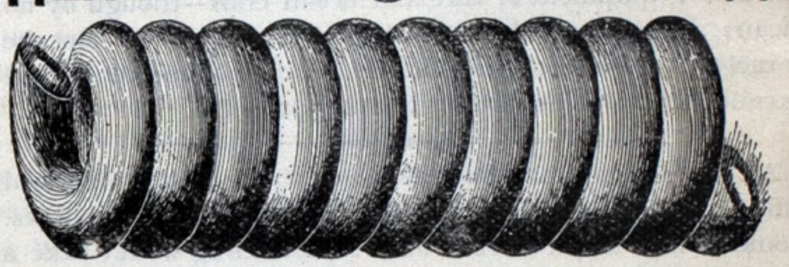

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ESTIMATES FOR RIVER AND HARBOR IMPROVMENTS.

General Wilson, Chief of Engineers, Corps of Engineers, U. S. A., has made the following estimates for river and harbor work for the fiscal year ending June, 1899:

Toledo harbor	$300,000
Sandusky harbor	185,000
Huron harbor	75,000
Black river harbor	38,000
Cleveland harbor	450,000
Fairport harbor	250,000
Ashtabula harbor	480,000
Conneaut harbor	495,000
Buffalo harbor	618,750
Chicago river	400,000
Illinois river	375,000
Calumet river harbor	300,000
Calumet river	250,000
Duluth harbor	1,102,776
Michigan City harbor	140,000
Marquette harbor	100,000
Harbor of refuge, Marquette bay	30,000
Harbor of refuge, Grand Marais	100,000
Sturgeon Bay ship channel	63,500
St. Joseph harbor	100,000
Monroe harbor	1,000
South Haven harbor	45,000
Kalamazoo river	145,000
Grand Haven harbor	30,000
Grand river	250,000
Muskegon harbor	110,000
Pentwater harbor	40,000
Manistee harbor	50,000
Frankfort harbor	65,000
Harbor of refuge, Portage Lake	160,000
Charlevoix harbor	25,000
Petoskey harbor	55,000
Hay Lake channel	494,115
Harbor of refuge, Sand Beach	250,000
Black river	32,000
Detroit river	91,257
Ashland harbor	100,000
Green bay harbor	30,000
Sheboygan harbor	26,000
Harbor of refuge, Milwaukee	155,650
Kenosha harbor	34,000
Fox river	100,000
Agate bay	71,718

Balances available for improvements of Lake Erie ports in Ohio are as follows:

Port Clinton—Balance, $2,122, needed, $15,000.

Sandusky—Balance, $2,931; needed, $185,000.

Huron—Balance, 745; needed, $117,500; can be used next year, $75,000.

Vermillion—Balance, $444; needed, $2,000.

Lorain—Balance, $12,184; needed, $38,500.

Cleveland—Balance, $5,958; needed, $924,000; can be used year, $450,000.

Fairport—Balance, $30,270; needed, $480,000; can be used next year, $250,000.

Ashtabula—Balance, $10,399; needed, $480,000.

Conneaut—Balance, $1,755; needed, $50,000.

Monroe harbor, Mich., $1,000. The estimate for the completion of the present project ($11,000) is the unappropriated balance of an estimate made for repairs. General Wilson recommends that the amount be made available in one appropriation.

Illinois and Mississippi river canal, $1,980,480.

Upper Mississippi river, removing snags, $100,000; improvement between Ohio and Missouri river, $900,000; between Missouri river and Minneapolis, $826,666; lock and dam between St. Paul and Minneapolis, $397,357; reservoir at the headquarters, $90,000.

For improving the Mississippi river from head of the passes to the mouth of the Ohio river, including salaries and clerical office, traveling and miscellaneous expenses of the Mississippi river commission, $1,983,333.

Missouri river above Sioux City, Ia., $706,675; Missouri river under the commission, $300,000; Osage river under Missouri commission, $150,000.

It is stated that during the last few months of the last fiscal year a considerable amount of work upon vessels that had been authorized by Congress had to be suspended owing to lack of funds. This caused a heavy drain upon the new appropriations at the beginning of the present fiscal year and makes the exhaustion of these appropriations before July 1st next, almost an assured fact.

TRANSMISSION OF POWER BY ROPE.

The plant of the Milwaukee Dry Dock Co. presents an interesting application of rope transmission of power. The outfit is of the Dodge patent American kind and was installed by the Milwaukee Rice Machine Co. Power is transmitted by means of a single 1-inch rope more than 200 feet from a 100 horse-power engine in the blacksmith shop to the saw mill. These shops stand at an angle of about 45 degrees. The engine wheel is 96 inches in diameter, has eight grooves and transmits power to a sheave with a diameter of 6 feet and grooved for ten wraps of the rope. Two of these grooves are used to drive an auxiliary shaft. One continuous rope transmits power direct to the shaft in the saw mill. This is accomplished by an arrangement of idlers over the main line shaft in the blacksmith shop, no idler sheaves being used in the saw mill except the winding sheave, which is placed beside the driving sheave, running loose on the shaft, so that any slippage (due to differential tension of the rope driven the distance of over 200 feet) is compensated for without friction. Both the rope and the tension carriage are entirely exposed to the weather. This tension carriage, a feature of the American system of rope transmission, automatically takes up the slack rope occasioned by atmospheric changes, or rather causes, and keeps up an almost uniform rope tension. The rope is rendered impervious to the weather by application of a special kind of rope dressing. This transmission has been in daily operation for nearly two years. Not a minute has been lost on account of any failure of the rope or any of the transmission accessories. The drive travels at a high rate of speed, yet to one looking at the rope in operation it would at first appear to be perfectly quiet, so little vibration is noticeable. The power in the plant was formerly transmitted by means of ropes, but by a different system, employing no tension carriage, and the longest life obtained for any rope was six months, while many played out in much less time, and all ropes required constant attention, being spliced and respliced many times ere being discarded. The satisfactory working of this drive is empha-

sized by the fact that the dry dock company, when adding an extensive plant for the working and shaping of steel for the purpose of building and repairing steel vessels, adopted the American system of rope driving for transmitting power from the engine in this new shop of the main shaft and also to an auxiliary drive to transmit power from the main line shaft to the minor line shaft on the opposite side of the room. Each of these shafts is over 100 feet long, is $3\frac{7}{16}$ inches in diameter and fitted throughout with Dodge adjustable capillary self-oiling pillow blocks.

NAVAL ARCHITECTS' SOCIETY.

The fifth general meeting of the Society of Naval Architects and Marine Engineers will take place in New York City, at 10 a. m. Thursday, Nov. 11, 1897. Through the courtesy of the president and manager of the American Society of Mechanical Engineers, the meetings will be held in the auditorium of No. 12 West 31st street, the session continuing through Thursday and Friday, November 11-12.

There will be a banquet at Delmonico's, at 7 p. m., Friday, November 12, to which members and their guests are cordially invited. Tickets, exclusive of wine, will be $5 each; and they can be obtained by applying to the secretary.

Notice is given that in general seats will not be reserved and tickets must be presented. It is requested that members obtain tickets as early as practicable.

Members intending to propose candidates for membership are requested to notify the secretary in order that the necessary blank forms of application may be forwarded and promptly filled out. The secretary-treasurer is Francis T. Bowles.

The following is a list of papers to be read before the meeting:

THURSDAY, NOVEMBER 11, 1897.

1. Watertight Bulkhead Doors; The "Long Arm" System on the U. S. S. Chicago, by Wm. Barnum Cowles, Esq., member. 2. Regulations for Loading Vessels, by Lewis Nixon, Esq., member. 3. Torpedo Boat Design, by Assistant Naval Constructor H. G. Gillmor, U. S. Navy associate. 4. The Commerce of the Great Lakes, by C. E. Wheeler, Esq., member. 5. Progressive Trials of the "Guardian," by Prof. C. H. Peabody, member. 6. An Experimental Study of the Influence of Surface upon the Performance of Screw Propellers (preliminary paper), by Prof. W. F. Durand, member.

FRIDAY, NOVEMBER 12, 1897.

7. Some Notes on the Speed Trials and Experience in Commission of our New Battleships, by Chief Constructor Philip Hichborn, U. S. Navy, vice-president. 8. Performance of Scotch Boilers and their Durability under Forced Draft, by Edwin S. Cramp, Esq., member. 9. Use of Water Ballast for Colliers in the Pacific Coast Trade, by Wm. P. Frear, Esq., member. 10. Estimated Weights of Machinery, by Prof. Geo. R. McDermott, member. 11. Navy Yard Expense, by Naval Constructor W. J. Baxter, U. S. Navy, member. 12. Pneumatic Steering Gear, as Applied to the U. S. Monitor Terror, by H. A. Spiller, Esq., member.

SOMETHING ABOUT PAT.

The New York Nautical College publishes a quarterly from which we take the following old-time truisms, but we do not vouch for the last item, or at least for the accuracy of it:

At a time when there is little or no wind, so that the pennant hangs down, it is then said to be a "Paddy's hurricane, with the wind up and down the mast."

What is known as an "Irish pennant" is the loose end of the rope hanging from a yard or over the side, in a careless or slovenly way.

He was a native of the "Ever Green Isle," employed as a deck-hand on one of our local towing boats, and had been temporarily placed at the wheel while the skipper attended to some matter outside the pilot-house. A few minutes later the captain looked up from the work that he was engaged on, and imagining the boat to be off her course, called up to Pat, asking him how he was heading. After inspecting the compass-card intently, he called back, "west-by-west-a-little-westerly, Sor!"

NOTES.

In his annual report to the Secretary of the Navy, Philip Hichborn, chief constructor of the navy, says that the strength of the navy on October 1st, was 141 vessels all told including the ships of both old and new navies.

The United States government will enforce the collection of the discriminating duty of 10 per cent. set forth in section 22, of the Dingley tariff law. Such are the instructions sent out to the various collectors of customs by the officials of the Treasury Department.

General Wilson, Chief Engineer, Corps of Engineers, U. S. A., has made his annual report to the Secretary of War. It is devoted to the fortifications and river and harbor improvements of the country. The estimates for coast defenses for the years 1898-1899 are as follows: Gun and mortar batteries, $5,000,000; purchase of land for fortifications, $500,000; protection, preservation and repair of fortifications, $100,000; preparations of plans for fortifications, $5,000; sea walls and embankments, $55,000. For the purchase of submarine mines, and necessary appliances to operate them, for closing the channels leading to our principal seaports; for needful casements, cable galleries, etc., to render it possible to operate submarine mines, $150,000. Total, $5,810,000.

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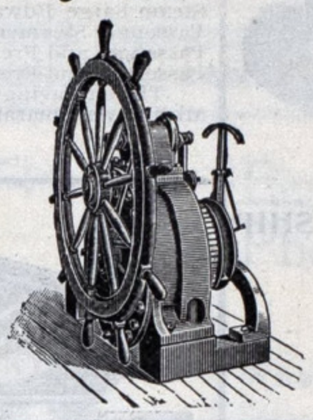

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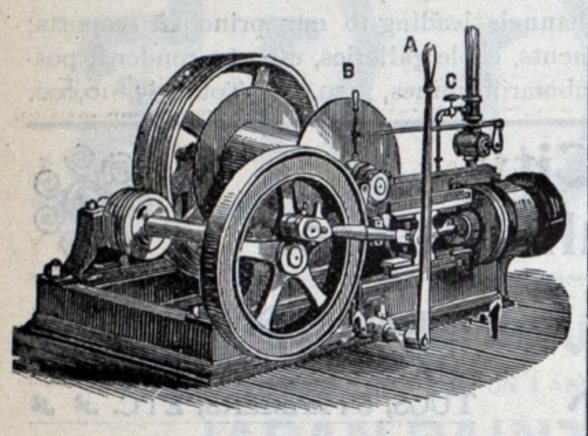

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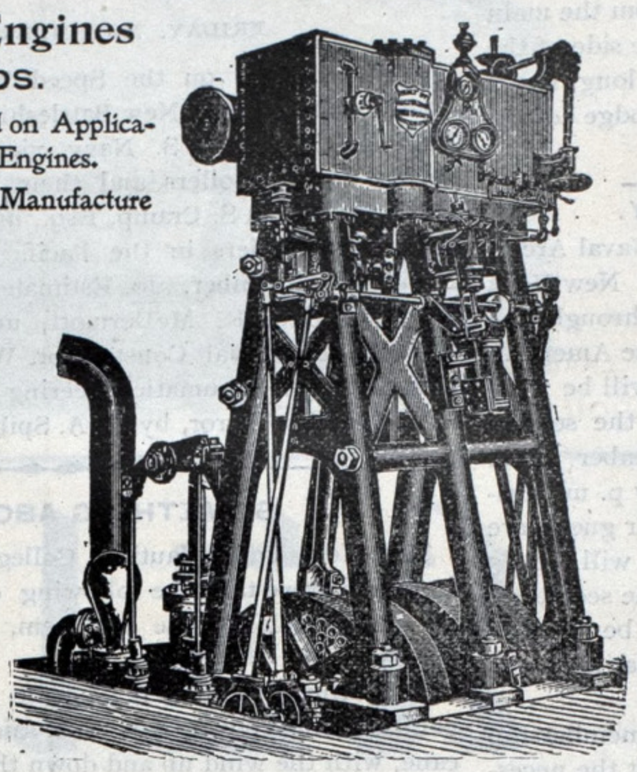

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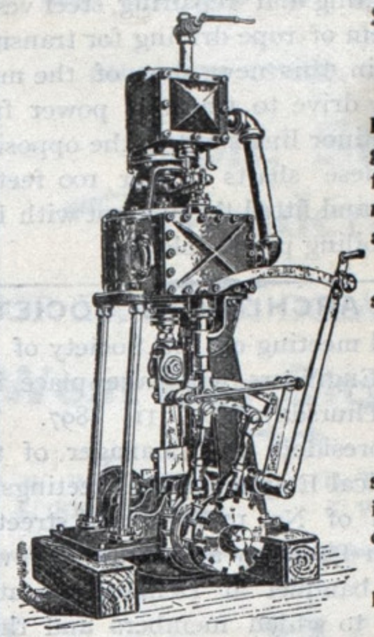

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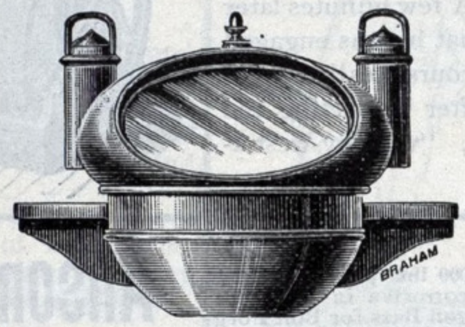

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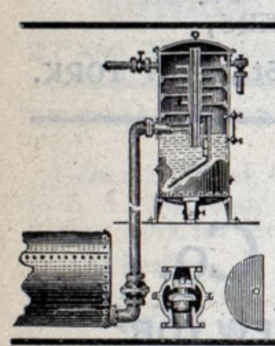

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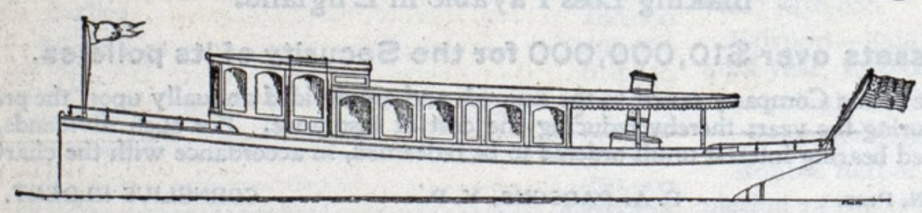

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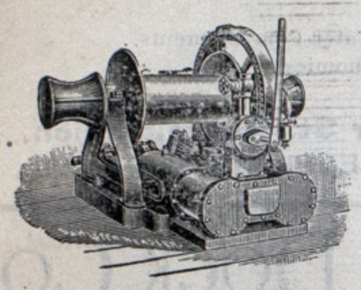

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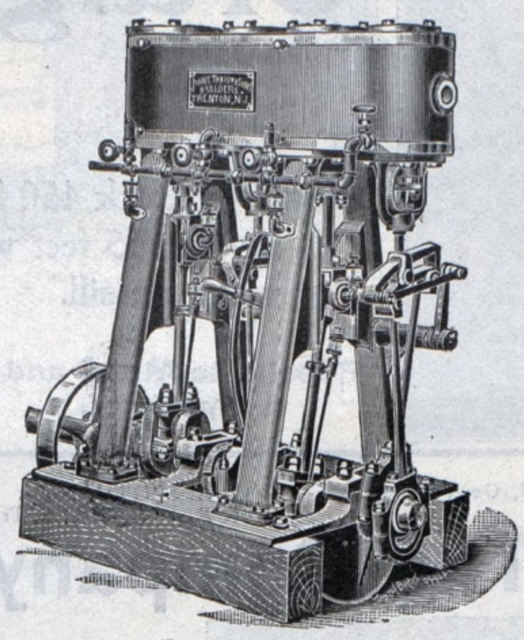

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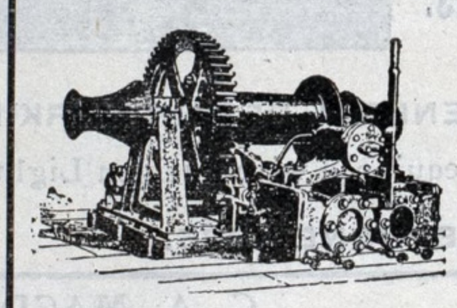

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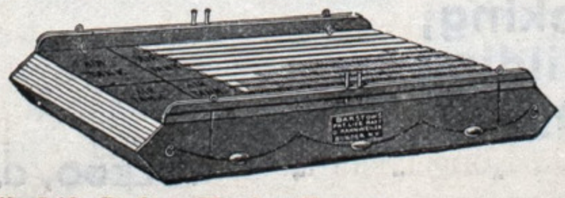

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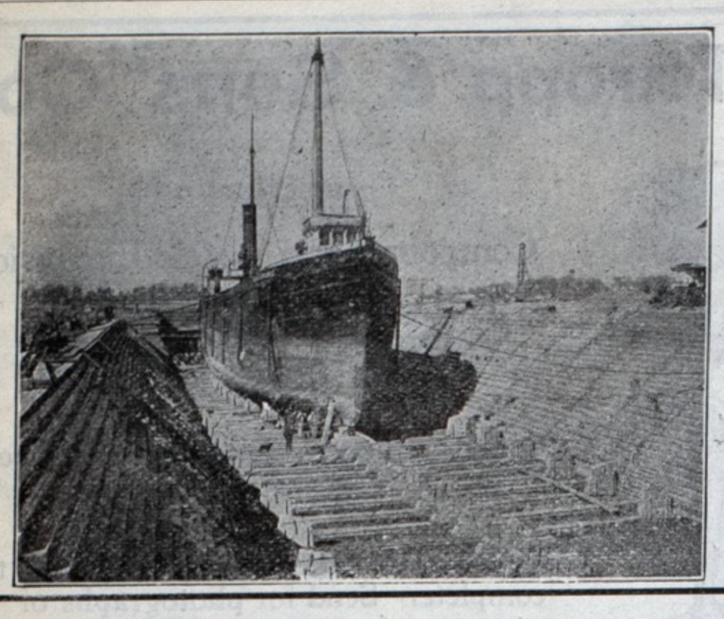

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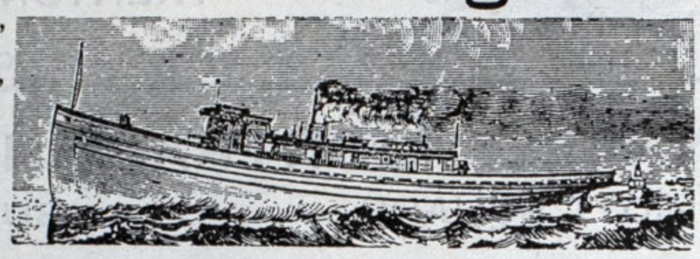

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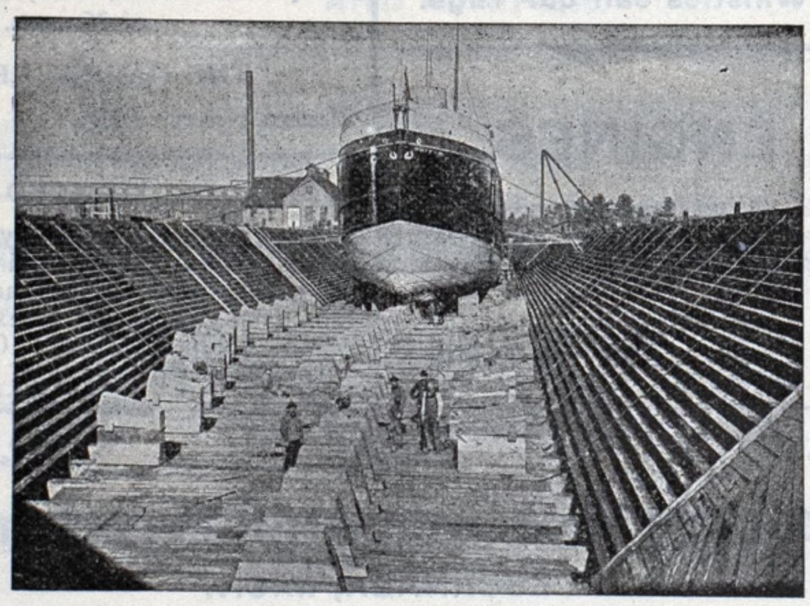

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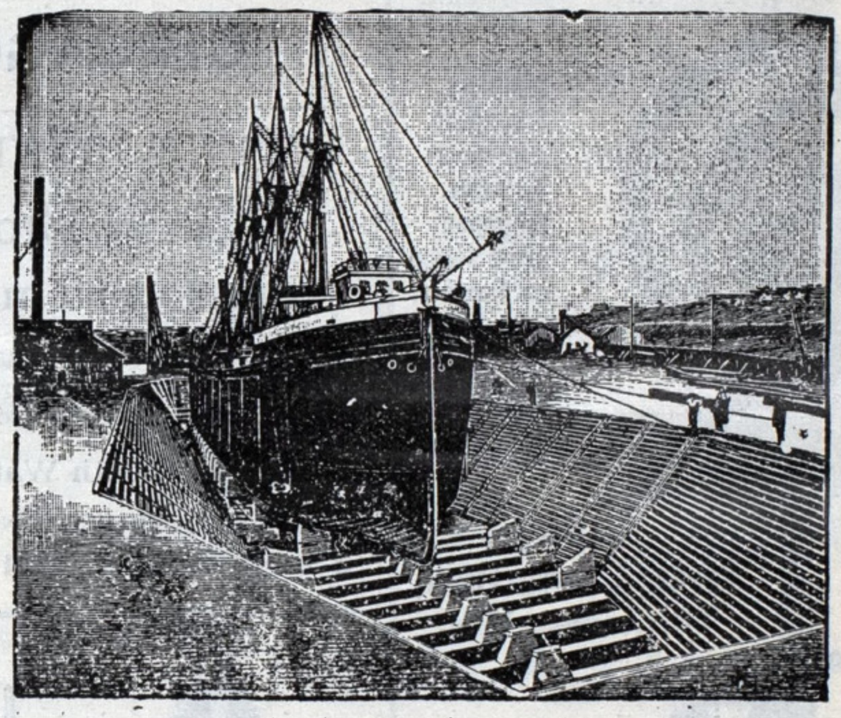

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